



Clean claims ORDERED after First Amendment (November 7/2004)

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1. (Amended) The interactive television system, comprising:

a television distribution network for transmitting multiple video presentations over at least one channel to a plurality of remotely located terminals each having at least one television receiver associated therewith;

a centrally located presentation system for producing video presentations to be transmitted by said television distribution network, said presentation system comprising:

(1) a plurality of broadcast video presentation sources, each producing a video image sequence corresponding to a broadcast video presentation, said video image sequence having a plurality of images,

(2) an interactive video presentation source which produces interactive video images continuously transmitted from a carousel of images, said interactive images corresponding to an interactive video presentation to be transmitted by said television distribution network,

(3) a multiplexer which receives said interactive video images and said broadcast images and combines them to produce a transmission image sequence having a number of images, said transmission image sequence comprising a plurality of interleaved images of said broadcast video images and interactive video images wherein said multiplexer comprises a switch comprising:

a first input port for receiving an interactive video image sequence;

a second input port for receiving a motion video image sequence;

an output port producing a video image sequence;

switching means which selectively switches between said interactive input port and said broadcast input port on individual video image boundaries, in order to interleave said plurality of images of said interactive and broadcast video images

provided at said input ports to produce said transmission image sequence on said output port;

a video motion detector controlling said switching means to switch from said second input port to said first input port in response to detecting a first predetermined condition; and

selection means to determine an image switching sequence;

(4) signal encoding means to encode said transmission image sequence into a television signal complying with the television signal format of said television distribution network; and

(5) transmitting means for transmitting said television signal over said television distribution network;

said plurality of remotely located terminals each further comprising:

(1) receiving means for receiving said transmission signal from said distribution network,

(2) decoding means to decode said television signal into said television image sequence,

(3) identification means for examining said received transmission image sequence and identifying whether each image pertains to one of said interactive video presentations or said broadcast video presentations,

(4) selection means for selection of video images associated with a presentation which selects said interactive video presentation or said broadcast video presentation to be displayed, and

(5) capture means to store said selected video image and display means to continuously retransmit said image to said associated television receiver at the standard television rate of the receiver.

2. (Original) An interactive television system according to claim 1 where said television signal is encoded in a digital format.
3. (Original) An interactive television system according to claim 1, wherein said plurality of images of said transmission image sequence are blocks of digitally encoded image data.
4. (Amended) The interactive television system according to claim 3, wherein data in said blocks has been compressed to remove redundant information.
5. (Original) An interactive television system according to claim 1 wherein said television distribution network comprises a telephone link.
6. (Original) An interactive television system according to claim 1 wherein said capture means comprises a personal computer.
7. (Amended) An interactive television system according to claim 1, wherein at least one interactive video presentation consists of a single image.
8. (Amended) An interactive television system according to claim 1, wherein at least one interactive video presentation consists of multiple video images.
9. (Original) An interactive television system according to claim 1, wherein said broadcast video presentation is digitally stored on said interactive presentation system.

10. (Amended) An interactive television system according to claim 1, wherein said broadcast video presentation is activated and controlled by said terminal.
11. (Original) An interactive television system according to claim 1, wherein a specific video presentation is selected by said terminal device.
12. (Amended) An interactive television system according to claim 1, wherein at least one of said remotely located terminals further comprise means for sending interactive instructions to said centrally located presentation system.
13. (Amended) An interactive television system according to claim 1, wherein said carousel of interactive video images is configured through a telephone network.
14. (Amended) An interactive television system according to claim 12, wherein said means for sending interactive instructions is via digital data originating from a personal computer.
15. (Amended) An interactive television system according to claim 12, wherein said means for sending interactive instructions is via a wireless link.
16. (Amended) The interactive television system in claim 1, wherein said interactive images are transmitted via said television distribution network responsive to commands from a separate carousel image controller connected to said presentation system.

17. (Original) The interactive television system in claim 1, wherein said interactive images are transmitted via said television distribution network responsive to commands generated by said presentation system.

18. (Original) The interactive television system in claim 18, wherein said terminal selects said interactive video images.

19. (Canceled)

20. (New) An interactive television system, comprising:

an interactive television distribution network for transmitting multiple interactive video presentations over at least one channel to a plurality of remotely located terminals each having at least one television receiver associated therewith;

a centrally located presentation system for assembling video presentations to be transmitted by said television distribution network, said presentation system comprising:

(1) a plurality of interactive video presentation sources, at least one source producing interactive video images continuously transmitted from a carousel of images;

(2) a multiplexer which receives said interactive video images and combines them with other images to produce a transmission image sequence having a number of images, said transmission image sequence comprising a plurality of interleaved images from different video image sources;

(3) means for labeling at least some of said images to distinguish the images from the different video image sources from one another;

(4) signal encoding means to encode said transmission image sequence into a television signal complying with the television signal format of said television distribution network;

(5) transmitting means for transmitting said television signal over said television distribution network such that images of a first video image source are transmitted at a predetermined fixed rate less than the image rate capacity of the television signal, and the remainder of said capacity is comprised of images from a second video image source and other images; and

(6) means for dynamically varying the respective transmission rates; said plurality of remotely located terminals each comprising:

(1) receiving means for receiving said television signal from said television distribution network,

(2) decoding means to decode said television signal into said transmission image sequence,

(3) identification means for determining whether a received image in said transmission image sequence is associated with a particular video image source;

(4) selection means responsive to user input for alternatively selecting video images from different ones of said video image sources, and

(5) capture means to store video images selected by said selection means and display means to continuously retransmit said selected images to said associated television receiver at the standard television rate of the receiver so that the selected images are presented for continual display while images from non-selected video image sources are inhibited from being displayed at the receiver.

21. (New) The interactive television system in claim 20, wherein at least one of said remotely located terminals further comprise means for sending interactive instructions to

said centrally located presentation system.

22. (New) The interactive television system in claim 20, wherein said centrally located presentation system further includes means for labeling at least some of said images with an address of a remotely located terminal.

23. (New) The interactive television system in claim 20, wherein the number of continuously transmitted interactive video images is dynamically allocated based upon the number of remotely located terminals receiving said interactive video presentations.

24. (New) The interactive television system in claim 20, wherein the number of continuously transmitted interactive video images is dynamically allocated based upon the number of simultaneous user requested presentations.

25. (New) A television system, comprising:

a television distribution network for transmitting multiple video presentations over at least one channel to a plurality of remotely located terminals each having at least one television receiver associated therewith;

a centrally located presentation system for assembling video presentations to be transmitted by said television distribution network, said presentation system comprising:

(1) at least one video presentation source, producing video image sequences corresponding to respective video presentations, said video image sequences each having a plurality of images;

(2) an interactive video presentation source which produces interactive video images continuously transmitted from a carousel of images, said interactive images corresponding to an interactive video presentation;

(3) a multiplexer which receives at least one of said video image sequences and combines it with said interactive images and other images to produce a transmission image sequence having a number of images, said transmission image sequence comprising a plurality of interleaved images from different video image sources wherein said video image sequence comprises a presentation which prompts viewers to make selections, and said other images comprise still-frame images which respectively correspond to different selections that can be made by the viewers;

(4) means for labeling at least some of said images to distinguish the images from the different video image sources from one another;

(5) signal encoding means to encode said transmission image sequence into a television signal complying with the television signal format of said television distribution network; and

(6) transmitting means for transmitting said television signal over said television distribution network such that the rate of image transmission of any video presentation over the television system is less than the image rate capacity of the television signal;

said plurality of remotely located terminals each comprising:

(1) receiving means for receiving said television signal from said television distribution network,

(2) decoding means to decode said television signal into said transmission image sequence,

(3) identification means for determining whether a received image in said transmission image sequence is associated with a particular video image source;



(4) selection means responsive to user input for alternatively selecting video images from different ones of said video image sources, and

(5) capture means to store video images selected by said selection means and display means to continuously retransmit said selected images to said associated television receiver at the standard television rate of the receiver so that the selected images are presented for continual display while images from non-selected video image sources are inhibited from being displayed at the receiver.

26. (New) An interactive television system, comprising:

a television distribution network for transmitting multiple video presentations over at least one channel to a plurality of remotely located terminals each having at least one television receiver associated therewith;

a centrally located presentation system for producing video presentations to be transmitted by said television distribution network, said presentation system comprising:

(1) a plurality of broadcast video presentation sources, each producing a video image sequence corresponding to a broadcast video presentation, said video image sequence having a plurality of images;

(2) an interactive video presentation source which produces interactive video images continuously transmitted from a carousel of images, said interactive images corresponding to an interactive video presentation to be transmitted by said television distribution network;

(3) a multiplexer which receives said interactive video images and said broadcast images and combines them to produce a transmission image sequence having a number of images, said transmission image sequence comprising a plurality of interleaved images of said broadcast video images and interactive video images wherein said multiplexer comprises a switch comprising:

a first input port for receiving an interactive video image sequence;

a second input port for receiving a motion video image sequence;

an output port producing a video image sequence;

switching means which selectively switches between said interactive input port and said broadcast input port on individual video image boundaries, in order to interleave said plurality of images of said interactive and broadcast video images provided at said input ports to produce said transmission image sequence on said output port;

trigger means for controlling said switching means to switch from said second input port to said first input port in response to a lack of motion in said broadcast video presentation, and

selection means to determine an image switching sequence;

(4) signal encoding means to encode said transmission image sequence into a television signal complying with the television signal format of said television distribution network; and

(5) transmitting means for transmitting said television signal over said television distribution network;

said plurality of remotely located terminals each further comprising:

(1) receiving means for receiving said television signal from said distribution network,

(2) decoding means to decode said television signal into said transmission image sequence,

(3) identification means for examining said received transmission image sequence and identifying whether each image pertains to one of said interactive video presentations or said broadcast video presentations,

(4) selection means for selection of video images associated with an interactive video presentation or a broadcast video presentation to be displayed, and

(5) capture means to store selected video images and display means to continuously retransmit said images to said associated television receiver at the standard television rate of the receiver.

27. (New) An interactive television system, comprising:

a television distribution network for transmitting multiple video presentations over at least one channel to a plurality of remotely located terminals each having at least one television receiver associated therewith;

a centrally located presentation system for producing video presentations to be transmitted by said television distribution network, said presentation system comprising:

(1) a plurality of broadcast video presentation sources, each producing a video image sequence corresponding to a broadcast video presentation, said video image sequence having a plurality of broadcast images;

(2) an interactive video presentation source which produces interactive video images continuously transmitted from a carousel of images, said interactive images corresponding to an interactive video presentation to be transmitted by said television distribution network;

(3) a multiplexer which receives said interactive video images and said broadcast images and combines them to produce a transmission image sequence having a number of images, said transmission image sequence comprising a plurality of interleaved images of said broadcast video images and interactive video images, said multiplexer comprising a switch controlled by a controller, said switch including:

(a) a first input port for receiving an interactive video image sequence;

(b) a second input port for receiving a motion video image sequence;

(c) an output port producing a video image sequence;

(d) switching means which selectively switches between said interactive input port and said broadcast input port on individual video image boundaries, in order to interleave said plurality of images of said interactive and broadcast video images provided at said input ports to produce said transmission image sequence on said output port; and

(e) a video motion detector for controlling said switching means to switch from said second input port to said first input port in response to detecting a first predetermined condition;

(4) signal encoding means to encode said transmission image sequence into a television signal complying with the television signal format of said television distribution network; and

(5) transmitting means for transmitting said television signal over said television distribution network;  
said plurality of remotely located terminals each further comprising:

(1) receiving means for receiving said television signal from said distribution network,

(2) decoding means to decode said television signal into said transmission image sequence,

(3) identification means for examining said received transmission image sequence and identifying whether each image pertains to one of said interactive video presentations or said broadcast video presentations,

(4) selection means for selection of video images associated with an interactive video presentation or a broadcast video presentation to be displayed, and

(5) capture means to store selected video images and display means to continuously retransmit said images to said associated television receiver at the standard television rate of the receiver.

28. (New) An interactive television system, comprising:

a television distribution network for transmitting multiple interactive video presentations over at least one channel to a plurality of remotely located terminals each having at least one television receiver associated therewith;

a centrally located presentation system for producing video presentations to be transmitted by said television distribution network, said presentation system comprising:

(1) at least one user requested interactive video presentation source, producing video image sequences corresponding to user requested interactive presentations,

(2) a second interactive video presentation source which produces interactive video images corresponding to an interactive video presentation to be continuously transmitted from a carousel of still frame images,

(3) a multiplexer which receives said user requested interactive video images and said continuously transmitted still frame interactive video images to produce a transmission image sequence having a number of images, said transmission image sequence comprising a plurality of interleaved images of said user requested interactive video images and continually transmitted interactive video images, said multiplexer further having an output port at which a transmission image sequence comprising a plurality of interleaved images is produced, and selection means for selectively connecting said output port to individual ones of said input ports according to determination strategies which dynamically vary between two or more of the following:

(a) assign equally to each input port,

(b) use preemption of assigned image capacity by higher priority user requested interactive image requests,

(c) use preemption of assigned image capacity by higher priority still frame images,

(d) assign based on the number of active user requested terminals, and

(e) assign based on a time schedule;

(4) signal encoding means to encode said transmission image sequence into a television signal complying with the television signal format of said television distribution network; and

(5) transmitting means for transmitting said television signal over said television distribution network;

said plurality of remotely located terminals each further comprising:

(1) receiving means for receiving said transmission signal from said distribution network,

(2) decoding means to decode said television signal into said television image sequence,

(3) identification means for examining said received transmission image sequence and identifying whether each image pertains to one of said user requested interactive video presentations or said continuously transmitted interactive presentations,

(4) selection means for selection of video images associated with a presentation which selects said user requested interactive video presentation or said continuously transmitted interactive presentations, and

(5) capture means to store said selected video image and display means to continuously retransmit said image to said associated television receiver at the

standard television rate of the receiver.

29. (New) The interactive television system in claim 28, wherein said user requested interactive presentation source includes image sequences relating to full motion presentations.

30. (New) The interactive television system in claim 29, wherein said determination strategies which dynamically vary, further include:

- (e) assign in proportion to specified degree of motion required in a transmission image sequence, and

- (f) assign in proportion to degree of motion present in a video image sequence

31. (New) A method for broadcasting multiple interactive video presentations and multiple broadcast video presentations on a single channel of a television distribution network from an interactive television system to a plurality of terminals having television receivers associated therewith, and for providing only one of said interactive video presentations or said broadcast video presentations at a time to individual television receivers, comprising the steps of:

- providing interactive video images and broadcast video images, each of said interactive video images being continuously transmitted from a carousel of images, each of said interactive images associated with an identification labeled therein;

- combining said interactive video images and said broadcast images to produce a transmission image sequence having a number of images including a plurality of said broadcast video images and a plurality of said interactive video images interleaved therein;

- encoding said transmission image sequence into a television signal;

transmitting said television signal on said television distribution network to said terminals;

receiving said television signal by at least one of said terminals;

decoding said television signal into an image sequence;

identifying whether each image of said image sequence is associated with one of said interactive video image presentation or said broadcast image presentation in accordance with said labeled identification;

switching said one terminal between an interactive mode of operation and a broadcast mode of operation

selecting one of said interactive video presentation or said broadcast video presentation for display on a television receiver associated with at least one of said terminals, in accordance with the mode of operation of said one terminal;

storing each image of said selected presentation and displaying said selected presentation on the television receiver associated with at least one of said terminals; and

inhibiting the storage of non-selected video images of said image sequence and continuously displaying a previously received video image to the television receiver at the standard television rate.

32. (New) The interactive television system according to claim 1, wherein said transmitting means for transmitting said television signal over said television distribution network further includes means for transmitting accompanying audio over a telephone link.